We Claim

1. A cyclic process to remove pollutant from fluid which comprises at least three concurrent steps:

(a) passing input fluid comprising pollutant through at least one adsorber to produce a polluted adsorber and a purified fluid stream of reduced pollutant content, which leaves the adsorber, stopping the flow into said adsorber to leave residual fluid therein, and separating said residual fluid from said adsorber to leave the polluted adsorber of reduced residual fluid content,

(b) heating a polluted adsorber with a heated regeneration gas to produce a hot adsorber of reduced pollutant content and cooler regeneration gas of increased pollutant content,

(c) contacting a heated adsorber of reduced pollutant content with a regeneration gas of a lower temperature than that of said adsorber to produce a cooler adsorber and a warmer regeneration gas, which gas is further heated to produce said heated regeneration gas which is passed to step (b)

said process comprising at least 3 adsorbers, at least one of which is being subjected to step (a), at least one different adsorber to step (b) and at least one further different adsorber being subjected to step (c), and after completion of one step the adsorber produced is subjected to the next step in the cyclic sequence (a) - (b) - (c) - (a).

2. A process according to claim 1 wherein step (a) comprises passing the separated residual fluid into a container.

3. A process according to claim 2 wherein step (a) comprises passing the prior separated residual fluid from said container to at least one adsorber prior to passing input fluid comprising pollutant through said adsorber.

4. A process according to claim 1 wherein at least 2 adsorbers are being subjected to step (a) at any one time.

5. A process according to claim 4 wherein step (b) comprises two concurrent steps (b)(i) heating a polluted adsorber with a regeneration gas of increased pollutant content to produce a heated polluted adsorber

b)(ii) further heating the heated polluted adsorber with a heated regeneration gas to produce a hot adsorber of reduced pollutant content and a regeneration gas of increased pollutant content and wherein the regeneration gas of increased pollutant content is passed to step (b)(i).

6. A process according to claim 5 wherein step (c) comprises two concurrent steps (c)(i) cooling a hot adsorber of reduced pollutant content from step (b) with regeneration gas of a lower temperature than that of the hot adsorber to produce a cooled adsorber, and heated regeneration gas,

(c)(ii) further cooling a cooled adsorber with a regeneration gas of a lower temperature than that of the cooled adsorber to produce a cooler adsorber and a warmer regeneration gas which is passed to a hot adsorber of reduced pollutant content undergoing step c(i) and wherein the heated regeneration gas produced in step c(i) is then heated further and passed to step (b).

7. A process according to claim 6 comprising six concurrent steps wherein a first and second adsorber are being subjected to step (a) a third adsorber is being subjected to step (b)(i), a fourth adsorber is being subjected to step (b)(ii) a fifth adsorber is being subjected to step (c)(i) and a sixth adsorber is being subjected step (c)(ii) and wherein said adsorbers are being subjected to their respective steps simultaneously.

8. A process according to claim 1 wherein the fluid is a liquid hydrocarbon stream.

9. A process according to claim 8 wherein the liquid hydrocarbon stream is a gasoline product resulting from the cracking of a high molecular weight hydrocarbon feed comprising 0.01-5% sulphur.

10. A process according to claim 1 wherein the adsorbers contain a porous oxide adsorbent.

11. A process according to claim 1 wherein the regeneration gas is hydrogen.

12. Apparatus for transferring impurities from a fluid feed containing them to a regeneration gas via an adsorbent to leave a purified fluid and gas comprising impurities, which comprises at least 3 adsorbers, each for containing means for adsorbing said impurities and wherein each adsorber comprises at least one first port and at least one second port, and wherein said apparatus also comprises at least one first inlet line for said fluid feed, at least one second exit line for said purified fluid, at least one third input line for regenerating gas and at least one fourth exit line for gas comprising impurities, and wherein

a) said first port(s) of each adsorber being capable of being in fluid communication with said first inlet line(s),

b) said second port(s) of each adsorber being capable of being in fluid communication with said second exit line(s),

c) said first port(s) of each adsorber being capable of being in fluid communication with a second port of at least one other adsorber in series, said communication being via heating means between at least one pair of adsorbers,

d) said first port(s) of each adsorber being capable of being in fluid communication with said fourth exit line(s) and

e) said second port(s) of each adsorber being capable of being in fluid communication with said third input line(s).

13. Apparatus comprising at least three adsorbers and a heater wherein said three adsorbers are connected in parallel via parallel connecting pipework through which a fluid comprising a pollutant can pass and wherein said three adsorbers and said heater are connected in series via series connecting pipework through which regeneration gas can pass and wherein said heater is located between at least two said adsorbers through said series connecting pipework.

14. Apparatus according to claim 13 comprising 6 adsorbers wherein said 6 adsorbers are connected in parallel via pipework through which a fluid comprising a pollutant can pass and wherein said 6 adsorbers and said heater are also connected in series via pipework through which regeneration gas can pass and wherein said heater is located between at least two said adsorbers through said pipework.

15. Apparatus according to claim 13 wherein two pairs of adsorbers are connected in series via said heater.

16. Apparatus according to claim 13 comprising at least one drain tank in communication via pipework with each adsorber.

17. Apparatus according to claim 13 comprising a cooler connected in series to the adsorbers.